

# Curriculum Vitae Yingqi Zhang

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## EDUCATION

- 2002           **Doctorate**, *University of Vermont (UVM), Burlington, Vermont*  
Major field:     Hydrogeology
- 1995           **Master**, *Tsinghua University, Beijing, China*  
Major field:     Hydrology and Water Resources
- 1993           **Bachelor**, *Tsinghua University, Beijing, China*  
Major field:     Hydraulic & Hydropower Construction Engineering  
Minor field:     Electronics and Computer Technology

## RESEARCH INTERESTS

Numerical modeling of multiphase flow in porous media; Optimization; uncertainty and risk analysis; parameterization, geostatistical methods. Applications include geological carbon sequestration; groundwater monitoring network design; environmental remediation; geothermal system and nuclear waste management

## PROFESSIONAL EXPERIENCE

- since 2006      **Geological Scientist**, *Earth Sciences Division,  
Lawrence Berkeley National Laboratory, Berkeley, California*
- 2003 – 2006     **Post-Doctoral Fellow**, *Earth Sciences Division,  
Lawrence Berkeley National Laboratory, Berkeley, California*
- 1998 – 2002     **Research Assistant**, *Department of Civil and Environmental  
Engineering, University of Vermont (UVM), Burlington, VT*
- 1996 – 1998     **Project Engineer**, *Hydraulic Design and Planning Institute, Beijing,  
China*

## SOFTWARE

Extended and documented a groundwater flow and transport model (PTC – Princeton Transport Code) to include the unsaturated zone (VTC);

Implemented Latin-hypercube sampling method into iTOUGH2

## INVITED TALKS/LECTURE

Guest Lecturer, Advanced Course in Optimization of Subsurface Source Finding, Monitoring Well Network and Remediation, HGL, Feb 8<sup>th</sup>, 2010.

Berkeley Water Center, “Using Self Potential and Multiphase Flowing Modeling to Optimize Groundwater Pumping”, April 2009

University of Wyoming, “Percolation Theory and Fuzzy Rule-Based Probability Estimation of Fault Leakage at Geologic Carbon Sequestration Sites”, Sept. 25, 2008

Invited speaker for session “H17: Nonlinear Determinism, Dominant Processes and Model Simplification in Hydrology” at Western Pacific Geophysics Meeting (WPGM), Beijing, China. July, 2006

## JOURNAL PUBLICATIONS

**Zhang, Y.**, C.M. Oldenburg, and S. Finsterle, Percolation-Theory and Fuzzy Rule-Based Probability Estimation of Fault Leakage at Geologic Carbon Sequestration Sites, *Environ. Earth Sci.*, doi: 10.1007/s12665-009-0131-4. Feb. 2010

Apps, J. A., L. Zheng, **Y. Zhang**, T. Xu and J. T. Birkholzer, Evaluation of Potential Changes in Groundwater Quality in Response to CO<sub>2</sub> Leakage from Deep Geologic Storage, *Transp Porous Med.*, DOI 10.1007/s11242-009-9509-8, Jan. 2010

Zheng, L., J. A., Apps, **Y. Zhang**, T. Xu and J. T. Birkholzer, On mobilization of lead and arsenic in groundwater in response to CO<sub>2</sub> leakage from deep geological storage, *Chemical Geology* 268 (2009) 281–297, doi:10.1016/j.chemgeo.2009.09.007

Finsterle, S., C. Doughty, M.B. Kowalsky, G.J. Moridis, L. Pan, T. Xu, **Y. Zhang**, and K. Pruess, Advanced vadose zone simulations using TOUGH, *Vadose Zone Journal*, doi:10.2136/vzj2007.0059. 2008 7: 601-609.

**Zhang, Y.**, C. M. Oldenburg, S. Finsterle, and G. S. Bodvarsson. 2007. System-level modeling for economic evaluation of geological CO<sub>2</sub> storage in gas reservoirs. *Energy Conservation and Management*, doi:10.1016/j.enconman.2007.01.018.

Liu, H., **Zhang, Y.** and F. J. Molz, Scale Dependence of the Effective Matrix Diffusion Coefficient: Some Analytical Results, *Vadose Zone Journal*, 2007 6: 679-683.

Zhou, Q., H. Liu, F. Molz, **Y. Zhang** and G. S. Bodvarsson, Field-Scale Effective Matrix Diffusion Coefficient for Fractured Rocks: Results from Literature Survey, *Journal of Contaminant Hydrology*, doi:10.1016/j.jconhyd.2007.02.002, 2007.

Liu, H., **Zhang, Y.**, Q. Zhou, and F. J. Molz, An interpretation of potential scale dependence of the effective matrix diffusion coefficient, *Journal of Contaminant Hydrology*, doi: 10.1016/j.jconhyd.2006.09.006, 2007.

**Zhang, Y.**, H. Liu, Q. Zhou, and S. Finsterle, Effects of Diffusive Property Heterogeneity on Effective Matrix Diffusion Coefficient for Fractured Rock, *Water Resour. Res.* VOL. 42, W04405, doi:10.1029/2005WR004513, 2006.

J. Birkholzer and **Zhang, Y.**, The Impact of Fracture–Matrix Interaction on Thermal–Hydrological Conditions in Heated Fractured Rock, doi:10.2136/vzj2005.0071, *Vadose Zone J* 2006 5: 657-672.

**Zhang, Y.**, G. F. Pinder and G. S. Herrera, Least Cost Design of Groundwater Quality Monitoring Networks. *Water Resour. Res.*, 41, W08412, doi:10.1029/2005WR003936, 2005.

**Zhang, Y.**, C. M. Oldenburg and S.M. Benson, Vadose Zone Remediation of Carbon Dioxide Leakage from Geologic Carbon Dioxide Sequestration Sites, *Vadose Zone Journal*, 3:858–866, 2004.

**Zhang, Y.** and G. F. Pinder, Latin-Hypercube Lattice-Sample Selection Strategies for Correlated Random Hydraulic-Conductivity Fields, *Water Resour. Res.*, 39(8), 1226, doi:10.1029/2002WR001822, 2003.